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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,904	02/06/2004	James Joseph Beck	60055USDIV2	8336

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EXAMINER

TUNG, JOYCE

ART UNIT PAPER NUMBER

1637

DATE MAILED: 05/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/773,904

Applicant(s)

BECK ET AL.

Examiner

Joyce Tung

Art Unit

1637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7,13,17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7,13,17 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/30/04</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

The preliminary amendment filed 2/06/04 has been entered. Claims 7, 13, and 17-18 are pending.

#### *Claim Objections*

1. Claim 7 is objected to because of the following informalities: the duplicate word "from" is in claim 7. It might be typographic error. Appropriate correction is required.

#### *Double Patenting*

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 7, 13, and 17-18 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2 of U.S. Patent No. 6,864,631. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claim 7 is drawn to a method of the detection of a fungal pathogen comprising using polymerase chain reaction with a pair of primer wherein each primer has sequence identity at

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least 10 contiguous nucleotides of a mitochondrial small subunit rDNA from *Fusarium proliferatum* and one primer comprises the nucleotide sequence of SEQ ID NO: 14 or 20, the instant claim 13 is drawn to primers comprising SEQ ID NO: 14 and 20, the instant claim 17-18 are drawn to a kit used in detecting *Fusarium proliferatum* comprising one primer having the nucleotide sequence of SEQ ID NO: 14 or 20 or a pair of primers of SEQ ID NO: 14 and 20, while claims 1-2 of U.S. Patent No. 6,864,631 are drawn to the same method, but the patented claims require the detection of *Fusarium verticillides* (syn. *F. moniliforme*) with one primer comprising the nucleotide sequence of SEQ ID Nos: 13-20, 23 or 24 and the primers comprise SEQ ID NO: 14 and 20. Thus, both the instant claims 7, 13, and 17-18 and the patented claims 1-2 are related as obvious variations within the same subject matter. Therefore, nonstatutory obviousness-type double patenting ~~rejection~~ is applicable.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 7, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hue et al. (Journal of Clinical microbiology, 1999, Vol. 37(8), pg. 2434-2438) in view of O'Donnell et al. (Mycologia, 1998, Vol. 90(3), pg. 465-498) and Buck et al. (BioTechniques, 1999, Vol.27, pg. 528-536).

Hue et al. disclose a method of amplifying a fragment of a gene coding for the rRNA of *Fusarium* species by PCR in blood and tissues (See pg. 2434, the Abstract). The method was used in screening filamentous fungi, *Fusarium proliferatum* or *Fusarium subglutinans* (See pg. 2435, Table 1).

Hue et al. do not disclose that SEQ ID NO: 14 or 20 is used as primer in plant for detecting *Fusarium proliferatum* or *Fusarium subglutinans* in plant.

O'Donnell et al. disclose a species specific primer from ITS2 and a mitochondrial small subunit rRNA for species *Gibberella fujikuroi* complex (See pg. 465). The complex includes *Fusarium subglutinans*, *Fusarium proliferatum* and *Fusarium verticillioides* (See pg. 466, table 1 and pg. 472, fig. 2).

Based upon the search report (See the attached nucleic acid search report), the small subunit rDNA of mitochondrial gene comprises SEQ ID NO: 20.

Buck et al. disclose that primers were selected from a 300bp test sequence for nucleic acid sequencing. The primers were tested (See pg. 530, column 1-3). The performance of the submitted and control primers functioned extremely well (See pg. 533, column 1).

Thus, one of ordinary skill in the art would have been motivated to modify the PCR method of Hue et al. by applying the selected primers from the nucleic acid sequence disclosed by O'Donnell to detect fungal pathogen *Fusarium proliferatum* in plant as claimed because Buck et al. indicated that primers which were selected from a known test sequence for sequencing ~~were~~ functioned extremely well (See pg. 533, column 1). It would have been prima facie obvious to apply SEQ ID NO: 20 for detecting *Fusarium proliferatum* in plant.

One of ordinary skill in the art would also have been motivated to construct a kit including the primer for detecting fungal pathogen *Fusarium proliferatum* in plant because it was routine practice in the art for conveniently performing the method as claimed. It would have been prima facie obvious to construct the kit containing SEQ ID NO: 14 or 20 for performing the method as claimed.

#### ***Allowable Subject Matter***

6. Claims 13 and 18 are free of the prior art, but rejected for other reasons.
7. The following is a statement of reasons for the indication of allowable subject matter:

Concerning claims 13 and 18, no prior art has been found teaching or suggesting the method and the kit for detecting *Fusarium proliferatum* using primers comprising SEQ ID NO: 14 and 20 by PCR.

The closest prior art is the reference of Hue et al. Hue et al. disclose that a method was used in screening filamentous fungi, *Fusarium proliferatum* or *Fusarium subglutinans* (See pg. 2435, Table 1) in blood and tissues by PCR. Hue et al. do not disclose that SEQ ID NO: 14 and 20 were used as a primer pair for detecting *Fusarium proliferatum* in plant and the kit containing the primer pair.

#### **Summary**


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8. No claims are allowable.
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joyce Tung whose telephone number is (571) 272-0790. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 571 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joyce Tung *J. T.*  
May 14, 2006

  
KENNETH R. HORLICK, PH.D  
PRIMARY EXAMINER  
5/15/06